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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,851	03/31/2004	Michael F. Cohen	MS1-1895US	5611
22801	7590	10/12/2007	EXAMINER	
LEE & HAYES PLLC 421 W RIVERSIDE AVENUE SUITE 500 SPOKANE, WA 99201			BITAR, NANCY	
			ART UNIT	PAPER NUMBER
			2624	
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			10/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Interview Summary</b>	Application No.	Applicant(s)
	10/814,851	COHEN ET AL.
	Examiner Nancy Bitar	Art Unit 2624

All participants (applicant, applicant's representative, PTO personnel):

- (1) Nancy Bitar. (3) \_\_\_\_\_.  
 (2) Jason Lindh. (4) \_\_\_\_\_.

Date of Interview: 10 October 2007.

Type: a) Telephonic b) Video Conference  
 c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.  
 If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1 and 2.

Identification of prior art discussed: Mittal et al ( US 2005/0286764) and DeMenthon et al (EAR99-05844).

Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Continuation Sheet.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

ANDREW W. JOHNS  
PRIMARY EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Continuation of Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Applicant argued that figure 9 of Mittal et al does not teach segmenting 3D based on color as pointed out by Examiner it is true that the primary reference does not explicitly teaches the color segmentation but the secondary reference teaches color segmentation so the 103 rejection still meets claims 1-19. Applicant argued that pointing out the second reference will be a new ground of argument preventing finality of the next action. Examiner disagrees with applicant since it will not form new ground of rejection. (See attached informal communication presented by applicant on 9/11/2003).

**INFORMAL COMMUNICATION: Please do not put in the file****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Serial No.** ..... 10/814,851  
**Filing Date** ..... Mar 31, 2004  
**First Named Inventor** ..... Michael F. Cohen  
**Assignee** ..... Microsoft Corporation  
**Group Art Unit** ..... 2624  
**Examiner** ..... Nancy Bitar  
**Attorney's Docket No.** ..... MS1-1895US  
**Title** ..... STYLIZATION OF VIDEO

**INFORMAL COMMUNICATION IN PREPARATION FOR  
SCHEDULING AN INTERVIEW**

To: Examiner Bitar  
Fax: 571-270-2041

From: Jason F. Lindh  
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Dear Examiner Bitar:

**[0001]** This communication provides an agenda for a phone interview of this matter. My assistant will be contacting you to schedule an interview. If you would prefer to schedule the interview, then please contact my assistant or me directly. Our contact info is on the signature page of this document. Thank you in advance for talking with me about this matter.

**INFORMAL COMMUNICATION: Please do not put in the file****Interview Agenda:**

- Restriction Requirement
- Discussion of proposed amendments

**Restriction Requirements**

**[0002]** Applicant proposes affirming the election in the formal response to the outstanding office action.

**Proposed Amendments**

**[0003]** Claims 1-19 have been rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Publication No. 2005/0286764 to Mittal in light of DeMenthon (Spatio-Temporal Segmentation of Video by Hierarchical Mean Shift Analysis, July 2002). Applicant respectfully traverses these rejections but proposes the following amendments to advance prosecution of the application.

**[0004]** **Independent claim 1** recites a method of stylizing video, comprising:

performing a spatio-temporal segmentation analysis on the video to identify three dimensional volumes of contiguous pixels having [a] similar [characteristic] color;

receiving an input identifying a group of the three dimensional volumes; and

identifying the group of three dimensional volumes as a single semantic region.

Serial No.: 10/814,851

Atty Docket No.: MS1-1895US

Atty/Agent: Jason F. Lindh

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**[0005]** The cited art does not teach nor suggest performing a spatio-temporal segmentation analysis on the video to identify three dimensional volumes of contiguous pixels having similar colors. The Examiner points to Mittal as teaching this element with reference to dependent claim 2, which has been incorporated into claim 1 to further distinguish claim 1 from the cited art. The Examiner specifically points to Figure 9 of Mittal as teaching the color representation. Applicant respectfully traverses this analysis.

**[0006]** Applicant would initially point out that figure 9 is illegible in its present state. Figure 9 supposedly shows an embodiment of Mittal having input frames and detection components depicted in at least three colors (pink, green and white). (See Paragraph [0039]). Because the drawings are in black and white, it is impossible to determine colors. Further, because of the quality of the images in the electronic file, it is impossible to determine if Figures 9A and 9B depict anything other than misshapen blobs.

**[0007]** Additionally, independent claim one requires that "performing a spatio-temporal segmentation analysis on the video to identify three dimensional volumes of contiguous pixels having [a] similar [characteristic] color". Mittal does not teach this element. Instead, Figure 9 of represents results from a simulated sequence wherein residuals r<sub>1</sub> and r<sub>2</sub> are represented by the colors green and pink respectively. These are arbitrary

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colors chosen to represent the residuals of the detection measures. Any segmentation was not based upon colors.

**[0008]** Mittal's invariant transformation is determined by measuring image pixel intensity that is transformed and evaluated in illumination-invariant space. (See at least paragraphs [0019], [0021], [0024]-[0025]). The intensity of an image pixel is different than the pixel color. As such, Mittal cannot teach each and every element of independent claim 1.

**[0009]** Independent claim 13 has been amended to include a similar element. As such, independent claim 13 would be allowable for the aforementioned reasons as shown above with relation to independent claim 1.

**Conclusion**

**[0010]** I look forward to talking to you about the proposed amendments.

Respectfully Submitted,

Dated: September 11, 2007

By: \_\_\_\_\_

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Serial No.: 10/814,851  
Atty Docket No.: MS1-1895US  
Atty/Agent: Jason F. Lindh  
INFORMAL COMMUNICATION IN PREPARATION FOR SCHEDULING

**INFORMAL COMMUNICATION: Please do not put in the file****Appendix of Claims with Proposed Amendments**

1. **(Currently Amended)** A method for stylizing video, comprising:
  - performing a spatio-temporal segmentation analysis on the video to identify three dimensional volumes of contiguous pixels having [a] similar [characteristic] color;
  - receiving an input identifying a group of the three dimensional volumes; and
  - identifying the group of three dimensional volumes as a single semantic region.
2. **(Cancel)**
3. **(Original)** The method of claim 1, wherein the spatio-temporal segmentation analysis comprises an anisotropic kernel mean shift segmentation procedure.
4. **(Original)** The method of claim 1, wherein the input comprises an interactive user input.
5. **(Original)** The method of claim 1, wherein the three dimensional volumes of contiguous pixels comprise segments.

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6. **(Original)** The method of claim 5, wherein the user input comprises outlining a plurality of segments.

7. **(Original)** The method of claim 6, wherein the outlining is performed on a number of keyframes of the video, the number of keyframes being fewer than a total number of frames of the video.

8. **(Original)** The method of claim 7, wherein additional segments on frames of the video other than keyframes are identified by determining a relationship of the additional segments to the segments outlined on the keyframes.

9. **(Original)** The method of claim 8, wherein the relationship comprises at least a portion of the additional segments being enclosed by one or more of the segments outlined on the keyframes.

10. **(Original)** The method of claim 9, wherein the at least a portion comprises at least a majority of pixels of the additional segments.

11. **(Original)** The method of claim 1, further comprising applying a stylization to the single semantic region.

12. **(Original)** The method of claim 11, wherein the stylization comprises a mean shift technique.

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13. **(Currently Amended)** A computer-readable medium having computer-executable instructions for stylizing video, the instructions comprising:

performing a spatio-temporal segmentation analysis on the video to identify three dimensional volumes of contiguous pixels having [a] similar [characteristic] color;

receiving an input identifying a group of the three dimensional volumes; and

identifying the group of three dimensional volumes as a single semantic region.

14. **(Original)** The computer-readable medium of claim 13, wherein the instructions further comprise deriving a set of edge sheets that represent the surface of the single semantic region and associating the edge sheets with the semantic region.

15. **(Original)** The computer-readable medium of claim 14, further comprising rendering the edge sheets as a curve between the semantic region and another portion of the video.

16. **(Original)** The computer-readable medium of claim 14, wherein a thickness of the edge sheets is determined based on criteria associated with the single semantic region.

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17. **(Original)** The computer-readable medium of claim 16, wherein the criteria comprises a position of the edge sheet relative to an arclength of the edge sheet.

18. **(Original)** The computer-readable medium of claim 16, wherein the criteria comprises a duration of existence of the semantic region in the video.

19. **(Original)** The computer-readable medium of claim 16, wherein the criteria comprises a movement of the semantic region in the video.

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20. **(Original)** A computer-readable medium having computer-executable instructions for stylizing video, the instructions comprising:

determining a set of volumetric objects by mean shift video segmentation, each volumetric object being a segment;

indicating on a limited number of keyframes how segments should be merged into a semantic region; and

interpolating the indications between keyframes by a mean shift constrained interpolation technique to propagate the indication to frames between keyframes.

21. **(Original)** The computer-readable medium of claim 20, further comprising drawing paint strokes within the semantic region at keyframes.

22. **(Original)** The computer-readable medium of claim 21, wherein the paint strokes are similarly interpolated.

23. **(Original)** The computer-readable medium of claim 20, wherein a surface of the semantic region is smoothed.

24. **(Original)** The computer-readable medium of claim 20, wherein an edge sheet is determined that corresponds to a surface of the semantic region.

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25. **(Original)** The computer-readable medium of claim 20, wherein a stroke sheet is determined that corresponds to a surface lying within the semantic region